REMARKS/ARGUMENTS

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Claims 18-28 are currently pending in this application. No claim amendments are presented, thus, no new matter is added.

In the outstanding Office Action, Claims 18-28 were rejected under 35 U.S.C. §102(a) as anticipated by Keller at al. (Vehicular Technology, IEEE Transactions on, Vol. 49, Issue 5, September 2000, pages 1893-1906, hereafter "Keller").

Applicants thank the Examiner for the courtesy of a telephone interview extended to Applicants' representative on January 24, 2007. During the interview the differences between the claims and the applied art were discussed. The Examiner indicated that the rejection under 35 U.S.C. §102(a) is overcome in view of the discussed arguments. Arguments presented during the interview are reiterated below.

Briefly recapitulating, Claim 18 is directed to a wireless multicarrier transmission method, where a multicarrier transmission uses *n* modulated frequency subcarriers (*n* is an integer number) and a fading condition of each subcarrier is detected to generate fading channel profile information. The modulation of each subcarrier is determined by precalculating a plurality of adaptive loading tables, each loading table containing x subcarriers for modulation with a lower modulation scheme, y subcarriers for modulation with a standard modulation scheme, and z subcarriers for modulation with a higher modulation scheme (x, y, and z are integer numbers), the sum of x, y, and z is *n* and a resulting number of coded bits of a multicarrier symbol is constant, selecting one of the adaptive loading tables for said multicarrier transmission, and modulating the x subcarriers having low fading channel profile information with the lower modulation scheme, modulating the y subcarriers having medium fading channel profile information with the

standard modulation scheme, and modulating the z subcarriers having high fading channel profile information with the higher modulation scheme.

Independent Claims 25 and 26 contain similar features to independent Claim 18, thus the following discussion pertains to independent Claims 18, 25 and 26.

In a non-limiting example, Fig. 4 shows a wireless multicarrier transmission method where a multicarrier transmission uses 48 (for example) modulated frequency subcarriers (see Specification, page 12, line 30), a fading condition of each subcarrier is detected to generate a fading profile 9, and the modulation of each subcarrier is determined by precalculating the plurality of adaptive loading tables (see Specification, Tables 3-5), selecting one of the adaptive loading tables for the multicarrier transmission (Fig. 4, step 13), and modulating the subcarriers (see page 16, lines 7-10).

In the example, each of the precalculated plurality of adaptive loading tables (see Specification, Tables 3-5) contains x subcarriers for modulation with a lower modulation scheme, y subcarriers for modulation with a standard modulation scheme, and z subcarriers for modulation with a higher modulation scheme (x, y, and z are integer numbers), the sum of x, y, and z is 48 (for example) and a resulting number of coded bits of a multicarrier symbol is constant (see Specification, page 13, lines 21-22).

Turning to the applied art, Keller teaches an adaptive modulation method for duplex OFDM transmission. Keller teaches using *N* subcarriers (Section II.A, para. 1), detecting a fading condition (Section II.A, para. 2), and choosing a modulation scheme for multicarrier transmission (Section II.D, para. 2-3).

However, Keller fails to teach or suggest a method where modulation of each subcarrier is determined by precalculating a plurality of adaptive loading tables.

To the contrary, Keller teaches a first step of the adaptive modulation method to consist of assigning the lowest modulation scheme to all subcarriers (see Section II.D, sub-

section (3)). Then, in a second step, a "cost value" is calculated for each subcarrier in order to have an idea of the expected increase in the number of bit errors if the modulation scheme having the next higher index is used for the subcarrier. The cost value depends directly on the estimated channel transfer function for the subcarrier. Having calculated such a cost value for each subcarrier, the subcarrier having the lowest cost value is selected and its modulation scheme is increased to the next higher index. This adaptive modulation method is repeated recursively until a predetermined number of bits can be transmitted over one OFDM symbol.

Therefore, the description of the method proposed by Keller fails to teach pre-calculating a plurality of adaptive loading tables and selecting one loading table. On the contrary, Keller teaches for each channel condition initializing a new modulation table and constructing recursively one modulation table on the basis of the initialized one.

Thus, it is respectfully submitted that independent Claims 18, 25, and 26 and all associated dependent claims patentably define over Keller.

Consequently, in light of the above discussion, and as agreed during the interview, the outstanding grounds for rejection are believed to have been overcome. The present application is believed to be in condition for formal allowance. An early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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